

REFERENCES

- Hennig, W.** 1958. Die Familien der Diptera Schizophora und ihre phylogenetische Verwandtschaftsbeziehungen. *Beitr. Ent.* 8(5/6):505-688.
- Smithers, C. N.** 1958. Some remarks on *Centrioncus prodiopsis* Speiser (Dipt., Diopsidae). *Ent. Mo. Mag.* 94:25-26.
- Van Bruggen, A. C.** 1961. Diptera (Brachycera): Diopsidae. In B. Hanström, P. Brinck, and G. Rudebeck, eds., *South African Animal Life*, Lund Univ., vol. 8:415-439.

A NEW SPECIES, CORRECTION OF SYNONYMY, AND NEW RECORDS
OF NEARCTIC STRATIOMYIDAE

(DIPTERA)¹

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ABSTRACT—A key to the Nearctic *Labostigmia* with pilose eyes is presented. *L. atrifacies*, n. sp., Florida, is described. *L. snowi* (Hart) and *Hedriodiscus binotatus* (Loew) are removed from synonymy with *L. viridis* (Bellardi) and *H. truquii* (Bellardi), respectively, which are Mexican species. The Neotropical *Hoplitomyia bimaculata* (Bellardi) is recorded for the first time from the Nearctic Region, and a second occurrence of the Palaearctic *Chloromyia formosa* (Scopoli) is recorded.

The purpose of this paper concerning the Nearctic Stratiomyidae is to present some additional information that has accumulated since the publication of the Stone *et al.* (1965) catalog. Part of this information has come indirectly from a study of the Mexican fauna supported in part by National Science Foundation Grant No. GB-7384. Literature citations are given only when they are directly pertinent to the contents of this paper; more complete citations to the taxa involved may be found in the Stone *et al.* catalog.

Subfamily STRATIOMYINAE

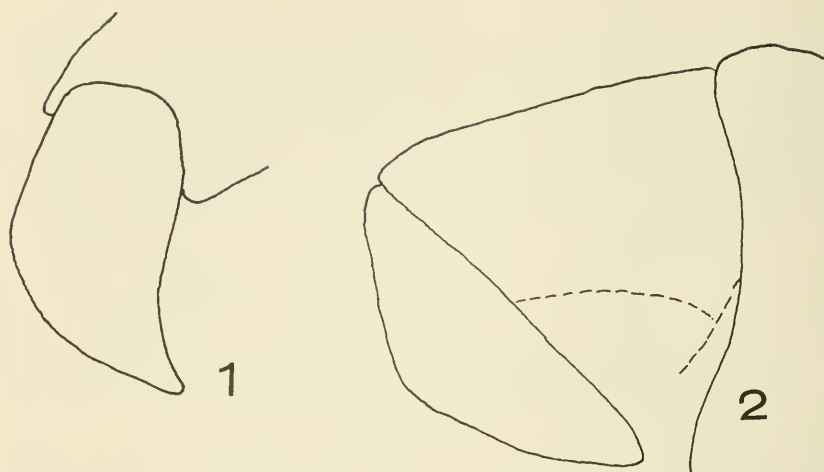
Genus *Hedriodiscus* Enderlein
Hedriodiscus binotatus (Loew)

Odontomyia binotata Loew, 1866:142 (Cent. 6, no. 22).

Hedriodiscus binotatus (Loew): James, in Stone *et al.*, 1965:315, as synonym of *truquii* (Bellardi).

Odontomyia truquii Bellardi of Authors, not Bellardi, 1859:34.

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Figs. 1-2, *Labostigmina* spp., outline of dististyle: 1, *atrifacies*, n. sp.; 2, *flavicornis* (Oliv.).

The true *Hedriodiscus truquii* (Bellardi), though close to the Nearctic species that has been going by that name, appears to be a strictly Mexican species. The species was described twice, from two variants, by Loew as *megacephala* (Cent. 6, no. 20) and *binotata* (Cent. 6, no. 22). Since page priority is not mandatory in the selection of a name from two synonyms published in the same work, and since *binotata* has had the wider usage, that name is here selected for this species.

Genus *Labostigmina* Enderlein

In my key to *Labostigmina* of America north of Mexico, James in James and Steyskal, 1952:403-411, I recognized two species with pilose eyes, namely, *flavicornis* (Olivier) and what I interpreted as *viridis* (Bellardi). In identifying the latter species, I followed the interpretation of Johnson, which has to the present time been accepted by American authors. However, a comparison of Mexican material with Nearctic specimens and with Bellardi's description and illustration indicates that the Mexican species is entirely different from the Nearctic one, which will go under the name *snowi* (Hart). A third species in this complex is here described as new.

The following should be substituted for couplet 2 of my *Labostigmina* key.

2. First and second antennal segments wholly or mostly black, first not more than one and one-half times length of second; scutellar spines minute, scutellum usually appearing unarmed except on very close observation; female with transverse yellow bands on abdominal terga 2 to 4, that on

2 narrowly interrupted medially **snowi** (Hart)

First and at least most of second antennal segments yellow, in contrast to the black flagellum; first antennal segment twice or more length of second; scutellar spines small but distinct (unless broken off); neither sex with complete or narrowly interrupted transverse yellow abdominal bands

2a

2a. Face above oral margin in both sexes, also oral margin of male, wholly black; mesonotum, including lateral margins, wholly black in both sexes; hairs of eyes of female distinctly curved **atrfacies**, n. sp.

Face above oral margin with a pair of yellow spots on lower part in male, extensively yellow below and laterally in female; sides of mesonotum yellow for entire length in female; hairs of eyes straight in both sexes

..... **flavicornis** (Olivier)

Labostigmina snowi (Hart)

Odontomyia snowi Hart, 1896:256.

Labostigmina snowi (Hart): James, in Stone *et al.*, 1965:314, as synonym of *viridis*.

Odontomyia viridis of Authors, not Bellardi, 1859:36.

Bellardi's species is a much smaller one (described as 7 mm. in length); the antennae are reddish-yellow and are shorter than in *snowi*, the first two segments being subequal; the abdominal pattern is quite different, as indicated by Bellardi's description and figure; and there are other less obvious discrepancies.

In *snowi*, the pile of the eyes is long and dense on the upper half of the eye in the female and on the area of larger facets (approximately upper two-thirds of eye) in the male; it is much longer and denser in the male than in the female, though even in the female it is much longer and more conspicuous than in *viridis*. On the lower part of the eyes, the hairs are short and scattered, that area often appearing bare; the division between the two areas is abrupt. The yellow patterning of the female is subject to some variation. The sides of the mesonotum are usually in large part yellow, though this color may be limited to the humerus and the supraalar area. On the abdomen, the yellow transverse band on the second tergum is always distinctly, though usually narrowly, interrupted; in one specimen from Texas (Belfrage Collection), the interrupted area is almost one-third the width of the abdomen; also, the bands of the third and fourth terga appear to be interrupted, although this may be due to discoloration.

Length, 8-12, usually 9-12 mm.

Type locality, Champaign Co., Illinois. Distribution, South Dakota to Indiana, south to Texas.

Labostigmina atrfacies, n. sp.

(Fig. 1)

Female. Head mostly black, the following areas yellow to orange-yellow: occipital orbit, extended dorsally onto that part of vertex behind level of eyes and including upper part of cerebrale, also ventrally across gena onto posterior part of oral margin; a transverse band on upper part of frons, from eye to eye, biarcuate anteriorly, sometimes divided by deepening of the arcuations into three spots; a pair of comma-shaped, wedge-shaped, or triangular spots along eye margin to each

side of antennal bases, its broadest side along eye margin; and anterior third of oral margin; the frons and vertex might be described as yellow with a broad transverse band occupying vertex back to posterior margin of eyes and including the ocellar triangle, and another black band in an intermediate position, connected laterally and medially with the black of the face; the oral margin is black medially, yellow anteriorly and posteriorly. Face, in lateral profile, projecting from eye margin by about two-thirds width of eye, its projection forward from antennal base about equal to width of occipital orbit, greater than in *flavicornis* but not as much so as in *snowi*. Width of occipital orbit about 0.08 head width. Pile of head, including eyes, white, that of eye uniform over entire surface, moderately dense and long, individual hairs distinctly curved. Proboscis black, brownish on basal part, with only scant pubescence. First and second antennal segments bright yellow (second partly black in one paratype), flagellum in contrast dark brown to black; ratio of first and second segments and five flagellomeres, in holotype, 70:30:40:33:32:22:8; sensory punctures uniform over first three flagellomeres but confined to them; scape and pedicel slender, scape strongly attenuated on basal third; pile of scape and pedicel white, flagellum only micropubescent.

Thorax mostly black; postalar callus dark brownish to black; scutellum yellow, black narrowly at base and apex, the basal area usually produced into an angular median process, the apical area sometimes interrupted medially; spines small but evident, not more than one-third length of scutellum, whitish to yellow; anterior part of mesopleuron usually yellow and extended narrowly toward wing base along notopleural suture; sometimes some yellowing on posterior part of pteropleuron and on hypopleuron; pleura sometimes virtually all black. Pile pale yellow to white; both dorsum and pleura with both appressed and short erect pile. Coxae, trochanters, and femora black; sometimes brown at apices of coxae and trochanters, femora with apices yellow; tibiae and tarsi yellow at bases, becoming orange-yellow toward apex, the hind tibia yellowish-brown to dark brown on approximately apical half. Pile of legs pale yellow to white. Wing hyaline, stronger veins yellow; r-m short to absent; R₄ absent; posterior veins uniformly well developed. Halter yellow.

Abdomen mainly black, dorsally and ventrally; second tergum with a pair of narrow semi-elliptical spots, broadly separated from each other and from lateral margins, at apex; these may be very small and, possibly, even absent; third tergum with a similar spot on *one side only* on holotype, absent in all paratypes; narrow lateral and posterior margins, beyond first segment, both dorsally and ventrally, orange-yellow (rather broad ventrally in one paratype); second sternum with a rectangular yellow area on median half, extending from anterior to posterior margin of segment; first sternum may be indefinitely yellowish medially. Some semi-erect pile on sides of segments, most conspicuous on first tergum; a trapezoidal or semi-elliptical area on each of terga 2 to 4, occupying about half the respective tergum, with black tomentum; these areas broadest at bases of terga and separated from their apices; abdomen otherwise with pale tomentum, that on dorsum silky, that on venter straight.

Length, 8–9.5 mm. (of holotype, 9.5 mm.).

Male. Head, except antenna, wholly black, eyes contiguous above antennae, gradually separating to narrow ocellar triangle; pile of eyes denser and distinctly longer than in female on area of larger facets (approximately upper two-thirds), on area of lower facets becoming abruptly shorter but still long and dense; indi-

vidual hairs of pile straight. Pile of head longer and denser than in female, pale yellowish to whitish, a few grayish hairs usually mixed with the paler ones between the eyes. Antenna in color and structure as in female, pedicel more often brown to brownish toward apex. Thorax black except scutellar spines and sometimes a narrow apical border between them, which are yellow; erect pile much longer, more abundant, and silkier than in female, also more yellowish, sometimes distinctly yellow dorsally. Abdomen with a yellow triangle at each posterior margin of terga 2 and 3, those on 2 usually almost reaching base of segment, those on 3 confined to apical half; along posterior margins, triangles reaching approximately median half (on tergum 2) to third (on tergum 3) of segment; narrow lateral and posterior margin of abdomen, except side of tergum 1, as in the female, yellow. First sternum mostly or wholly black, venter otherwise usually yellow, but in one paratype sternum 4 is almost wholly black and blackish to discolored areas may show on this and other sterna, especially in the allotype. Black abdominal tomentum of female replaced by short, blackish to yellowish, semi-erect pile, which, in turn, is largely obscured by longer, erect yellow to yellowish pile which covers abdomen, dorsally and ventrally. Genitalia yellow, essentially as in *obscura*; dististyle (fig. 1) oval, strongly convex dorsally, slightly convex ventrally, similar to that of *obscura* but more acute apically, that of *flavicornis* more triangular (fig. 2). Aedeagus trifold, the intromittent organ and guards parallel-sided and on apical part parallel to each other, intromittent organ a little shorter than guards; all three flattened and of similar texture, whitish. Length, 6.5-9 mm.

Holotype female, Marion County, Florida, April 8, 1956, R. A. Morse; Florida Plant Board. Allotype, male, Levy Co., Florida, April 13, 1955, at *Erigeron quercifolius*, H. V. Weems; Florida Plant Board. Paratypes: 1 male, same data as allotype; 1 male, 1 female, Levy Co., Florida, May 6, 1955, F. W. Mead; 1 female, Brevard Co., Florida, March 10, 1958, *Citrus aurantium*, H. C. Levan; 1 female, Silver Springs, Florida, April 5, 1953, K. V. Krombein; 2 males, Avon Park, Florida, April 4, 1953, Krombein; 1 female, 3 males, 2 miles E. Hollister, Putnam Co., Florida, April 9, 1963, J. G. and B. L. Rozen; paratypes in the collections of the Florida Plant Board, United States National Museum, American Museum of Natural History, and Washington State University.

A female is designated the holotype because of the highly diagnostic value of characters of that sex.

The relationship of this species seems closest to *obscura* (Olivier) among the previously described Nearctic species, but the bare eyes of *obscura* easily differentiate that species; the general size is smaller, and there are other differences of less importance.

Genus *Hoplitimyia* James

Hoplitimyia bimaculata (Bellardi)

Stratiomys bimaculata Bellardi, 1862:10.

Two males, Cameron Co., Texas, December 26, 1955, and April 21, 1957, Texas A & M University collection. This is a new record for the

United States and the Nearctic Region; the species was described from Yucatan, Mexico, and has previously been recorded only from that state.

Subfamily SARGINAE

Genus *Chloromyia* Duncan

Chloromyia formosa (Scopoli)

James (1941) recorded this common European species from two males taken at Rochester, New York, June 16, 1939. In the Stone *et al.* (1965) catalog it was considered as only questionably established in the Nearctic Region. However, the discovery of another specimen in the Cornell University Collection, taken in Monroe County, New York (the county in which Rochester is located), June 23, 1967, shows that either this species has become established at least in the Rochester area, or that a new introduction into the same area has occurred.

REFERENCES

- Bellardi, L.** 1859. Saggio di ditterologia messicana. Parte I. Pt. 1, 80 pp. Torino.
- . 1862. Saggio di ditterologia messicana. Appendice. App., 28 pp. Torino.
- Hart, C. A.** 1896. On the entomology of the Illinois River and adjacent waters. First paper. Ill. State Lab. Nat. Hist. Bull. 4:149–273.
- James, M. T.** 1941. Notes on the Nearctic Geosarginae (Diptera: Stratiomyidae). Ent. News 52:105–108.
- and **G. C. Steyskal.** 1952. A review of the Nearctic Stratiomyini (Diptera, Stratiomyidae). Ann. Ent. Soc. Amer. 45:385–412.
- Loew, H.** 1866. Diptera Americae septentrionalis indigena. Centuria sexta. Berl. Ent. Z. (1865) 9:127–186.
- Stone, A., C. W. Sabrosky, W. W. Wirth, R. H. Foote, and J. R. Coulson.** 1965. A catalog of the Diptera of America north of Mexico. USDA Agric. Handbook No. 276. 1696 pp.